

AIR QUALITY PERMIT

Issued to: Montana Tunnels Mining Inc.
P.O. Box 176
Jefferson City, Montana 59638

Permit #1986-09
Application Complete: 05/12/03
Preliminary Determination Issued: 06/06/03
Department Decision Issued: 06/24/03
Permit Final: 07/10/03
AFS #043-0003

An air quality permit, with conditions, is hereby granted to Montana Tunnels Mining, Inc. (Montana Tunnels) pursuant to Section 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

A. Plant Location

Montana Tunnels operates a surface mine, ore processing plant, and tailings disposal facility, including all on-site air pollutant emitting equipment and activities, located 15 miles south of Helena in Sections 4, 5, 7, 8 and 9, Township 7 North, Range 4 West, Jefferson County, referred to as the Montana Tunnels Mine. Montana Tunnels also operates a zinc concentrate loadout facility, including all on-site air pollutant emitting equipment and activities, located 1 mile east of Helena in the NW ¼ of Section 28, Township 10 North, Range 3 West, Lewis and Clark County.

B. Current Permit Action

The current permit action is for an increase in ore and waste rock removal at the mine. The allowable waste/ore removal rate will increase from 25,700,000 tons per year to 34,000,000 tons per year on a rolling 12-month average.

Section II: Conditions and Limitations

A. Emission Limitations

1. Particulate stack emissions are limited to 0.05 grams per dry standard cubic meter (ARM 17.8.340 and 40 CFR Part 60, Subpart LL).
2. Baghouse stack emissions are subject to an opacity limitation of 7% averaged over 6-consecutive minutes (ARM 17.8.340 and 40 CFR Part 60, Subpart LL).
3. Process fugitive emissions are subject to an opacity limitation of 10% averaged over 6-consecutive minutes (ARM 17.8.340 and 40 CFR Part 60, Subpart LL).
4. Process fugitive emissions from the transfer of over-size reject ore from the conveyor belt to the stockpile shall not exceed an opacity of 10% averaged over 6-consecutive minutes (ARM 17.8.749).
5. Montana Tunnels shall install a sprinkler system or provide equivalent mitigative measures to adequately control windblown emissions from the tailings facility, if necessary. The Department of Environmental Quality (Department) shall determine the adequacy of the control measures on the basis of personal observation, results of ambient air quality monitoring, complaints, or any combination of the above (ARM 17.8.749 and 17.8.752).

6. With respect to the portion of the relocated access road immediately south of Corbin, the recipient must remove the tailings from the roadway area and/or bury it to a sufficient depth to avoid contact with vehicle tires. This is due to the high trace metal levels in the old tailings deposits in the area. This portion of the road, as well as the portion immediately west of Jefferson City, must, as a minimum, be chemically stabilized. The necessity for chemical stabilization on the remainder of the road, or portions of it, will be determined by the Department through on-site inspections (ARM 17.8.749).
7. Maximum ore and waste rock production shall be limited to 34,000,000 tons per rolling 12-month period from the Montana Tunnels Mine. The maximum amount of ore processed from the Diamond Hill Mine shall be limited to 365,000 tons per year. Annual diesel usage in the electric generators used to power the crushing system used for ore from the Diamond Hill Mine shall be limited to 150,000 gallons per year (ARM 17.8.749).
8. Montana Tunnels shall construct and operate the zinc concentrate loadout facility, located between Helena and East Helena, as described in the permit modification request submitted September 29, 1988, and updated November 2, 1988. No ambient air monitoring or performance testing specific to this facility was initially required; however, the need for this will be reviewed through ongoing site inspections (ARM 17.8.749).
9. Montana Tunnels shall not handle more than 120 tons per hour of over-size reject ore through the system designed to handle over-size reject ore from the autogenous mill. This includes conveyors and handling points (ARM 17.8.749).
10. Montana Tunnels shall not process more than 7,000,000 tons of ore per rolling 12-month period in either the portable crusher or first stage primary jaw crusher (ARM 17.8.749).
11. Montana Tunnels shall comply with all applicable standards, limitations, and the reporting, record keeping, and notification requirements contained in 40 CFR Part 60, Subpart LL, for all affected facilities (ARM 17.8.340 and 40 CFR Part 60).
12. Water shall be available and used, as necessary, to maintain compliance with the opacity limitations as necessary (ARM 17.8.752).
13. Montana Tunnels shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
14. Montana Tunnels shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.13 (ARM 17.8.749).

B. Testing Requirements

1. The affected facilities, under 40 CFR 60, Subpart LL, including: the first stage primary crusher and associated conveyors (run out conveyor and transfer conveyor) shall be tested and compliance demonstrated with the emission limitations contained in Section II.A.1, 2, and 3 within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start up of the system (ARM 17.8.105, ARM 17.8.340, and 40 CFR 60.8).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Montana Tunnels shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Montana Tunnels shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745(1), that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emissions unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by Montana Tunnels as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
4. In addition, Montana Tunnels shall submit the following information annually to the Department by March 1 of each year. This information is required to verify compliance with permit limitations and may be requested for the annual emission inventory, which may be required to be submitted before March 1 (ARM 17.8.749).
 - a. Amount of ore produced;
 - b. Amount of ore processed from the Diamond Hill Mine;
 - c. Amount of diesel fuel used in the electric generators for the Diamond Hill ore crushing system;
 - d. Amount of over-size reject ore handled from the autogenous mill;
 - e. Amount of ore crushed in the portable crusher; and
 - f. Amount of ore crushed in the first stage primary crusher.

5. Montana Tunnels shall document, by month, ore and waste rock production levels. By the 25th day of each month, Montana Tunnels shall total the ore and waste rock production levels during the previous 12 months to verify compliance with the limitations in Section II.A.7. A written report of the compliance verification shall be submitted annually to the Department along with the annual emission inventory (ARM 17.8.749).
6. Montana Tunnels shall document, by month, portable crusher and first stage primary jaw crusher production levels. By the 25th day of each month, Montana Tunnels shall total the portable crusher and first stage primary jaw crusher production levels during the previous 12 months to verify compliance with the limitations in Section II.A.10. A written report of the compliance verification shall be submitted annually to the Department along with the annual emission inventory (ARM 17.8.749).

D. Ambient Air Monitoring

Montana Tunnels shall operate an ambient air monitoring network as described in Attachment 1 of this permit. The monitoring plan will be periodically reviewed by the Department and revised, if necessary (ARM 17.8.749).

E. Notification Requirements

1. Montana Tunnels shall provide the Department at least 30 days prior notice of the date of any performance test in order to allow an observer to be present (ARM 17.8.340 and 40 CFR 60, Subpart LL).
2. Montana Tunnels shall provide the Department with written notification of the following dates within the specified time periods:
 - a. Commencement of construction of the first stage primary crusher within 30 days after commencement of construction (ARM 17.8.340).
 - b. Anticipated start-up date of the first stage primary crusher between 30 and 60 days prior to anticipated start-up date (ARM 17.8.340).
 - c. Actual start-up date of the first stage primary crusher within 15 days after the actual start-up date (ARM 17.8.340).
 - d. Commencement of construction of the run out and transfer conveyors within 30 days after commencement of construction (ARM 17.8.340).
 - e. Anticipated start-up date of the run out and transfer conveyors between 30 and 60 days prior to anticipated start-up date (ARM 17.8.340).
 - f. Actual start-up date of the run out and transfer conveyors within 15 days after the actual start-up date (ARM 17.8.340).

Section III: General Conditions

- A. Inspection – Montana Tunnels shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections, surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be

deemed accepted if Montana Tunnels fails to appeal as indicated below.

- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Montana Tunnels of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement, as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department's decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department's decision until the conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Montana Tunnels may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762)

ATTACHMENT 1

Ambient Air Monitoring Plan Montana Tunnels Mining, Inc. Montana Tunnels Mine

1. This ambient air monitoring plan is required by air quality Permit #1986-09, which applies to Montana Tunnels Mining, Inc. (Montana Tunnels) Mine's ore processing plant and tailings disposal facilities near Jefferson City, Montana. This monitoring plan may be changed from time to time by the Department of Environmental Quality (Department), but all current requirements of this plan are also considered conditions of the permit.
2. Montana Tunnels shall install, operate, and maintain two ambient air quality monitoring stations in the vicinity of their Jefferson City mine and ore processing plant. The exact location of the monitoring sites must be approved by the Department and meet all siting requirements contained in the Montana Quality Assurance Manual, including revisions; the EPA Quality Assurance Manual, including revisions; and Parts 50, 53, and 58 of the Code of Federal Regulation; or any other requirements specified by the Department.
3. Montana Tunnels shall continue air monitoring for at least 1 year after implementation of the revisions to the ambient air monitoring plan. At that time, the air monitoring data will be reviewed by the Department and the Department will determine if continued monitoring or additional monitoring is warranted. The Department may require continued air monitoring to track long-term impacts of emissions for the facility or require additional ambient air monitoring or analyses if any changes take place in regard to quality and/or quantity of emissions or the area of impact from the emissions.
4. Montana Tunnels shall monitor the following parameters at the sites and frequencies described below:

Airs # and Site Name	UTM Coordinates	Parameter	Frequency
30-043-0019 Centennial Ranch #1	Zone 12 N5134000 E 417700 Elevation 5000 ft.	PM ₁₀ ¹ PM ₁₀ Collocated	Every sixth day Every sixth day
30-043-0022 Clancy Creek #4	Zone 12 N5136800 E 413600 Elevation 6000 ft.	PM ₁₀	Every sixth day

¹PM₁₀ = particulate matter less than 10 microns.

5. Data recovery for all parameters shall be at least 80 percent, computed on a quarterly and annual basis. The Department may require continued monitoring if this condition is not met.
6. Any ambient air monitoring changes proposed by Montana Tunnels must be approved in writing by the Department.
7. Montana Tunnels shall utilize air monitoring and quality assurance procedures which are equal to or exceed the requirements described in the Montana Quality Assurance Manual, including revisions; the EPA Quality Assurance Manual, including revisions; 40 CFR Parts 53 and 58 of the Code of Federal Regulations; and any other requirements specified by the Department.

8. Montana Tunnels shall submit quarterly data reports within 45 days after the end of the calendar quarter and an annual data report within 90 days after the end of the calendar year. The annual report may be substituted for the fourth quarterly report if all information in 9. below is included in the report.
9. The quarterly report shall consist of a narrative data summary and a data submittal of all data points in AIRS format. This data may be submitted in ASCII files on 3" or 5" high or low-density floppy disks, in IBM-compatible format, or on AIRS data entry forms. The narrative data summary shall include:
 - a. A topographic map of appropriate scale showing the air monitoring site locations in relation to the mine, ore processing plant, tailing facilities, and the town of Wickes
 - b. A hard copy of the individual data points
 - c. The quarterly and monthly means for PM_{10}
 - d. The first and second highest 24-hour concentrations for PM_{10}
 - e. A summary of the data collection efficiency
 - f. A summary of the reasons for missing data
 - g. A precision and accuracy (audit) summary
 - h. A summary of any ambient air standard exceedances
 - i. Calibration information
10. The annual data report shall consist of a narrative data summary containing:
 - a. A topographic map of appropriate scale showing the air monitoring site locations in relation to the mine, ore processing plant, the tailings facility, and the town of Wickes
 - b. A pollution trend analysis
 - c. The annual means for PM_{10}
 - d. The first and second highest 24-hour concentrations for PM_{10}
 - e. An annual summary of data collection efficiency
 - f. An annual summary of precision and accuracy (audit) data
 - g. An annual summary of any ambient standard exceedanced
 - h. Recommendations for future monitoring
11. The Department may audit, or may require Montana Tunnels to contract with an independent firm to audit, the air monitoring network, the laboratory performing associated analyses, and any data handling procedures at unspecified times. Based on the audits and subsequent reports, the Department may recommend or require changes in the air monitoring network and associated activities in order to improve precision, accuracy, and data completeness.

Permit Analysis
Montana Tunnels Mining, Inc.
Application #1986-09

I. Introduction/Process Description

A. Permitted Equipment

Montana Tunnels Mining, Inc. (Montana Tunnels) operates a surface mine, ore processing facilities, tailings disposal facility, and associated equipment.

B. Source Description

The Montana Tunnels Mine is located in Sections 4, 5, 7, 8, and 9, Township 7 North, Range 4 West, Jefferson County, Montana. A description of the operation is included in the following section.

C. Permit History

The original air quality **Permit #1986** for the Montana Tunnels project was issued to Centennial Minerals on February 7, 1986. The permit was later transferred to Montana Tunnels, a subsidiary of Pegasus Gold. The following project description was included in the original application analysis.

The project includes the construction and operation of an open pit mine and ore processing facility. Ore production is planned to be 15,000 tons per day. Metals to be recovered are gold, silver, lead, and zinc. The major components of processing are crushing, grinding, flotation, cyanide leaching and refining. There would also be a waste rock dump and a tailings disposal facility associated with the operation. Gold and silver would be produced as bullion and lead and zinc as concentrates. A detailed description of the operation is included in the application.

The first permit alteration was given **Permit #1986A** and was issued November 16, 1988. It was for the inclusion of a zinc concentrate rail loadout facility located immediately east of Helena.

The second permit alteration was given **Permit #1986-02** and was issued March 31, 1992, to add a waste oil burner at the mine site. The burner is used to provide space heat and to dispose of some used oils from the operation.

Permit #1986-03 was an alteration issued August 18, 1993, to increase the amount of diesel fuel used and to generally update the permit. Diesel usage increased from 420,000 to 1,260,000 gallons per year.

The project description was updated to reflect that the process had changed somewhat since the original permit. Cyanide leaching is no longer included, but some gold is mechanically separated from the process stream and smelted on site. Lead and zinc concentrates, which contain gold and silver values, are still produced and sent to large smelters (East Helena and Trail, British Columbia).

A small secondary (cone) crusher was added to the circuit, which handles over-size material from the autogenous grinding mill.

Permit #1986-04 was issued May 1, 1996, for the construction and operation of a three-stage crushing system to process ore from the Diamond Hill Mine at a maximum rate of 365,000 tons per year.

Permit #1986-05 was issued on April 30, 1997, to allow for increased ore and waste mining and milling activities and, specifically, an increase in diesel fuel consumption to 3,700,000 gallons per year. There would be an increase of 351 tons per year in fugitive nitrogen oxides emissions from mobile source diesel exhaust. This is based on the maximum diesel usage and decreases in the future, coinciding with decreased waste hauling.

Permit #1986-06 was issued on July 15, 1999. The alteration included the addition of a system to handle over-size reject ore from the autogenous mill. The allowable emissions increase from the proposed activities were 34.98 tons per year of total particulate matter and 14.15 tons per year of PM₁₀.

In addition, Montana Tunnels had requested, in a letter dated April 9, 1999, to change their ambient monitoring requirements. Montana Tunnels requested: 1) elimination of all PM₁₀ air sample collection between the period of October 1 and April 30 of each year at all monitoring sites, including Site No. 1 (Ranch and collocated); Site No. 2 (Wickes Flat); and Site No. 4 (Clancy Creek); and 2) collection of PM₁₀ air samples between May 1 and September 30 be reduced to one in six days at Sites 1, 2, and 4. The Department of Environmental Quality (Department) agreed to reduce sampling to one in six days for the entire year and to discontinue monitoring at Site No. 2. The values at Site No. 2 have been consistently below 33% of the 24-hour PM-10 standard and below 22% of the annual PM₁₀ standard.

Permit #1986-07 was issued on September 5, 1999. The alteration included the addition of a portable jaw crusher and associated equipment to crush over-sized ore generated from Montana Tunnels mine. The allowable emissions increase from the proposed activities in tons per year was 40.9, 15.3, 4.3, 0.92, 0.28, and 0.35 of particulate matter, PM₁₀, NO_x, CO, SO_x, and VOC, respectively.

Permit #1986-08 was issued on August 29, 2002, for the addition of a first stage primary crusher and associated run out and transfer conveyors. This equipment would be used in series with the existing jaw crusher (second stage primary crusher). Ore production through the crushing and handling operations increases from 6.1 to 7.0 million tons per year. The allowable emissions increase from the activities is 44.8 and 18.0 tons per year of particulate matter and PM₁₀ respectively.

D. Current Permit Action

Montana Tunnels submitted a complete permit application on May 12, 2003, for a modification to increase ore and waste rock removal from 25,700,000 tons per year to 34,000,000 tons per year on a rolling 12-month average. **Permit #1986-09** replaces Permit #1986-08.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices, and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Montana Tunnels shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
3. ARM 17.8.221 Ambient Air Quality Standard for Visibility
4. ARM 17.8.222 Ambient Air Quality Standard for Lead
5. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Montana Tunnels must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Montana Tunnels shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
 3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
 4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
 5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
 6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
 7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). Montana Tunnels is considered an NSPS affected facility under 40 CFR 60 and is subject to the requirements of Subpart LL.
- D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Montana Tunnels submitted the appropriate permit application fee for the current permit action.
 2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

- E. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources,

including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a facility to obtain an air quality permit or permit modification if they construct, alter or use any air contaminant sources that have the potential to emit greater than 25 tons per year of any pollutant. Montana Tunnels has the potential to emit more than 25 tons per year of PM₁₀; therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that are not subject to the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration or use of a source. Montana Tunnels submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Montana Tunnels submitted an affidavit of publication of public notice for the April 23, 2003, issue of the *Jefferson County Courier*, a newspaper of general circulation in the Town of Jefferson City in Jefferson County, as proof of compliance with the public notice requirements.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Montana tunnels of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or

modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
 13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, subchapters 8, 9, and 10.
 14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the (FCAA) that it would emit, except as this subchapter would otherwise allow.
- This facility is not a major stationary source since this facility is not a listed source and the facility's potential to emit is less than 250 tons per year of any pollutant (excluding fugitive emissions).
- G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. Potential to Emit (PTE) > 100 tons/year of any pollutant;
 - b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #1986-09 for Montana Tunnels, the following conclusions were made.

- a. The facility's PTE is less than 100 tons/year for any pollutant.
- b. The facility's PTE is less than 10 tons/year for and one HAP and less than 25 tons/year for all HAPs.
- c. This source is not located in a serious PM₁₀ nonattainment area.
- d. This facility is subject to a current NSPS 40 CFR 60, Subpart LL).
- e. This facility is not subject to any current NESHAP standards.
- f. This source is not a Title IV affected source, nor a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Montana Tunnels will be a minor source of emissions as defined under Title V. However, if minor sources subject to an NSPS are required to obtain a Title V Operating Permit, Montana Tunnels may be required to obtain a Title V Operating Permit.

III. BACT Determination

A BACT determination is required for each new or altered source. Montana Tunnels shall install on the new or altered source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized.

The Department determined that BACT relative to the increase in ore and waste rock production is the continuation of emission control techniques currently used at the mine. This includes chemical stabilization and watering on haul roads and good engineering practices such as minimizing fall distances on material handling operations as necessary to maintain compliance with the opacity and reasonable precautions limitations.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

Source	Tons/Year	
	TSP	PM ₁₀
Ore and Waste Rock Blasting	6.29	3.14
Ore and Waste Removal	41.50	16.60
Ore and Waste Dumping	41.50	16.60
Haul Roads – Ore	23.35	6.06
Haul Roads – Waste Rock	134.75	35.00
Total	247.39	77.40

- * A complete emission inventory for Permit #1986-09 is on file with the Department. The emission inventory reflects the increase in emissions associated with this permit action. Emission increases shown for existing equipment are based on the ore and waste rock production increase from 25.7 to 34 million tons per year.

V. Existing Air Quality

Montana Tunnels has monitored particulate levels around the mine through the life of the operation, including a pre-mine baseline program. All data is on file with the Department. Attachment 1 describes the current monitoring plan. Measured concentrations have been below the ambient air quality standards.

VI. Ambient Air Impact Analysis

Using 2001 and 2002 as representative ambient monitoring years, the maximum 24-hour PM₁₀ concentration measured was 72 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and the highest annual average was 20.4 $\mu\text{g}/\text{m}^3$. The calculated emission increase related to the increase in ore and waste rock production is 17 percent. As a conservative analysis, applying that percentage increase to the 2001 and 2002 measured values, the concentrations (including background) would be 84 $\mu\text{g}/\text{m}^3$ (24-hour) and 24 $\mu\text{g}/\text{m}^3$ (annual). These are well below the applicable ambient air quality standards of 150 $\mu\text{g}/\text{m}^3$ and 50 $\mu\text{g}/\text{m}^3$, respectively.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Montana Environmental Policy Act (MEPA) Compliance

An environmental assessment, required by MEPA, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air and Waste Management Bureau
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FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued For: Montana Tunnels Mining Inc.
P.O. Box 176
Jefferson City, MT 59638

Permit Number: 1986-09

Preliminary Determination Issued: 06/06/03

Department Decision Issued: 06/24/03

Permit Final: 07/10/03

1. *Legal Description of Site:* The mine is located in Sections 4, 5, 7, 8, and 9, Township 7 North, Range 4 West, in Jefferson County, Montana.
2. *Description of Project:* The permit would allow for an increase in ore and waste rock removal at the mine. The allowable waste/ore removal rate would increase from 25,700,000 to 34,000,000 tons per year on a rolling 12-month basis. The allowable rates for haul truck vehicle miles traveled and blasting would also increase. The overall process description is discussed in Permit #1986-09.
3. *Objectives of Project:* The issuance of Permit #1986-09 would allow Montana Tunnels to implement the above mentioned increase in production. The company's objective is to provide business and revenue for the company. Metals recovered would continue to be lead, zinc, gold, and silver.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no action" alternative. The "no action" alternative would deny issuance of the air quality permit to the proposed facility. However, the Department does not consider the "no action" alternative to be appropriate because Montana Tunnels demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no action" alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be contained in Permit #1986-09.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no action alternative” was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A.	Terrestrial and Aquatic Life and Habitats			✓			yes
B.	Water Quality, Quantity, and Distribution			✓			yes
C.	Geology and Soil Quality, Stability, and Moisture			✓			yes
D.	Vegetation Cover, Quantity, and Quality			✓			yes
E.	Aesthetics			✓			yes
F.	Air Quality			✓			yes
G.	Unique Endangered, Fragile, or Limited Environmental Resource			✓			yes
H.	Demands on Environmental Resource of Water, Air, and Energy			✓			yes
I.	Historical and Archaeological Sites			✓			yes
J.	Cumulative and Secondary Impacts			✓			yes

Summary of Comments on Potential Physical and Biological Effects: The following comments have been prepared by the Department.

- A. **Terrestrial and Aquatic Life and Habitats;**
- B. **Water Quality, Quantity, and Distribution;**
- C. **Geology and Soil Quality, Stability, and Moisture;**
- D. **Vegetation Cover, Quantity, and Quality; and**
- E. **Aesthetics**

The current permit action would allow for an increase in the mining rate within the currently approved mine plan area. This would result in a relatively small increase in air pollutant emissions above those associated with the current mining rate. In the maximum emission scenario, there would be a particulate emission increase of approximately 17 percent above the current permitted level. All of the increase would be fugitive emissions. There would be a small increase in air pollutant deposition in the area and in the use of water for dust suppression. Overall impacts to the physical and biological environmental parameters noted above would be minor for these reasons and because the activities would occur within the current mining area with little or no additional surface disturbance.

- F. **Air Quality**

The air quality impacts from the increased activities would be minor because Permit #1986-09 would include conditions limiting the visible emissions (opacity) from the plant operations, and would require water spray bars and other means to control air pollution. The plant operations would continue to be limited by Permit #1986-09 to total emissions of 250 tons per year or less from non-fugitive sources, including any additional equipment used at the site. This facility

would continue to be considered a minor source of air pollution for the Title V program, since the facility's potential emissions would be below 100 tons per year. Overall, air emissions from the increased activities would have minimal impacts on air quality in the immediate and surrounding area because of the relatively small amount of additional pollutants generated. Air pollution controls such as fabric filtration, chemical stabilization, and water sprays would reduce air emissions from equipment operations, storage piles, and haul roads.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The increased activities would occur within the previously disturbed industrial site at the mine. As part of MEPA analyses on initial mine development, assessments of potential impacts to unique endangered, fragile, or limited environmental resources were done by the Department, including contact with the Montana Natural Heritage Program – Natural Resource Information System (NRIS) to identify species of special concern at the mine site. The likelihood that the increased mining rate would impact unique endangered, fragile, or limited environmental resources would be minor because of the relatively small increase in emissions, no increase in the mine plan area, and conditions placed in Permit #1986-09.

H. Demands on Environmental Resource of Water, Air, and Energy

The increased activities would only require minimal additional amounts of water, air, and energy. Limited amounts of water would be used for dust control for the equipment, product stockpiles, and surrounding haul roads. Further, as described in Section 7.F. of this EA, pollutant emissions generated from the operation would have minimal impacts on air quality in the immediate and surrounding area. Overall, the demands and impacts to the environmental resource of water, air, and energy related to the increased activities would be minor.

I. Historical and Archaeological Sites

The increased activities would occur within the previously disturbed industrial site at the mine. According to past correspondence from the Montana State Historic Preservation Office, there is low likelihood of adverse disturbance to any known archaeological or historic site because of previous industrial disturbance within the area. Therefore, the likelihood that the increased activities would have impact on historical or archaeological sites would be minor.

J. Cumulative and Secondary Impacts

The increased activities would cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment. There would be a relatively small increase in air emissions of particulate matter and PM₁₀ and no increase in the mine plan area. The Department believes that this facility would operate in compliance with all applicable rules and regulations outlined in Permit #1986-09.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no action alternative” was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A.	Social Structures and Mores				✓		Yes
B.	Cultural Uniqueness and Diversity				✓		yes
C.	Local and State Tax Base and Tax Revenue			✓			yes
D.	Agricultural or Industrial Production			✓			yes
E.	Human Health			✓			yes
F.	Access to and Quality of Recreational and Wilderness Activities			✓			yes
G.	Quantity and Distribution of Employment				✓		yes
H.	Distribution of Population				✓		yes
I.	Demands for Government Services			✓			yes
J.	Industrial and Commercial Activity			✓			yes
K.	Locally Adopted Environmental Plans and Goals				✓		yes
L.	Cumulative and Secondary Impacts			✓			yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The Department has prepared the following comments have been prepared by the Department.

- A. **Social Structures and Mores; and**
B. **Cultural Uniqueness and Diversity**

The Department determined that the increased activities would not have an impact on the social structures and mores or the cultural uniqueness and diversity of this area of operation because the increase in the mining rate is relatively minor and the activities would occur within the previously disturbed industrial area. The surrounding area would remain unchanged as a result of the increased activities.

- C. **Local and State Tax Base and Tax Revenue**

The increased activities would have little or no impact on the local and state tax base and tax revenue. No full time, permanent employees would be added as a result of issuing Permit #1986-09. The increase in the amount of equipment at the site would be minimal.

- D. **Agricultural or Industrial Production**

The increased activities would occur within the previously disturbed industrial area; therefore, the Department would not expect an impact to or displacement of agricultural production. The increased activities would be relatively small compared to the existing mining operation and would have only a minor impact on local industrial production. In addition, the facility would operate within the permitted mining area, which upon completion of mining operations, would be reclaimed, as specified, by the Environmental Management Bureau (EMB) of the Department. Minor and temporary effects may occur to agricultural land, and the EMB would be responsible for oversight of any reclamation activities.

E. **Human Health**

Permit #1986-09 would incorporate conditions to ensure that the increased activities would be accomplished in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. As noted in Section 7.F. of this EA, the air emissions from this facility would be minimized by fabric filtration, water spray, chemical stabilization, and opacity limitations. Furthermore, the increased activities and resulting air emissions would be relatively small. Therefore, any associated impacts to human health would be minor based as a result of compliance with the applicable standards and operational conditions and limitations incorporated within the permit.

F. **Access to and Quality of Recreational and Wilderness Activities**

The increased activities would occur within the previously disturbed industrial property and would not impact access to recreational and wilderness activities. Minor impacts on the quality of recreational activities could be created from the noise from the increased activities, however these would be small in comparison to existing activities. Emissions from the operation would be minimized as a result of the conditions that would be placed in Permit #1986-09. Therefore, the associated impacts on the access to and quality of recreational and wilderness activities would be minor.

G. **Quantity and Distribution of Employment; and**
H. **Distribution of Population**

As a result of the relatively small size of the operations associated with the increased activities, the quantity and distribution of employment and the distribution of population in the area would not be impacted. No full time, permanent employees would be added as a result of issuing Permit #1986-09 and no related secondary employment would be expected.

I. **Demands of Government Services**

Minor increases may be observed in the local traffic on existing roads in the area. Very limited additional government services would be required relative to these operations. Overall, demands for government services would be minor.

J. **Industrial and Commercial Activity**

The increased activities would represent only a minor increase in the industrial activity in the area because of the small production increase in comparison to the existing operation. No additional commercial activity would result because no secondary activities are expected to move to the area as a result of the increased activities.

K. **Locally Adopted Environmental Plans and Goals**

The Department is not aware of any locally adopted environmental plans or goals that would be affected by the proposed project. The state standards would protect the proposed site and the environment surrounding the site.

L. **Cumulative and Secondary Impacts**

The increased activities would cause minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area because of the small increase in potential air emissions. Increases in traffic would have minor impacts on the local traffic in the

immediate area. Because the project would be a relatively small increase compared to the current operation, only minor economic impacts to the local economy would be expected. New businesses would not be drawn to any areas and permanent jobs would not be created or lost as result of the proposed project.

Recommendation: An EIS is not required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: All potential effects resulting from the proposed increase in activities are minor, therefore, an EIS is not required. In addition, the source would be applying the Best Available Control Technology and the analysis indicates compliance with all applicable air quality rules and regulations.

Other groups or agencies contacted or which may have overlapping jurisdiction: Department of Environmental Quality - Permitting and Compliance Division; Montana Natural Heritage Program; and State Historic Preservation Office.

Individuals or groups contributing to this EA: Department of Environmental Quality (Air and Waste Management Bureau), Montana Natural Heritage Program, and State Historic Preservation Office (Montana Historical Society).

EA prepared by: Pat Driscoll

Date: May 23, 2003